

CLAIMS:

1. A moving image distribution system for distributing a prespecified moving image to a user terminal connected to the system via a network such as the Internet, said system comprising:

a moving image distributing unit for distributing said moving image to two not-reproducible moving image files along the time axis;

an encrypting unit for encoding either one of the divided moving image together with data for a CM file including a prespecified CM (advertisement) element incorporated therein;

a moving image distributing unit for distributing to the user terminal either one of the moving image files produced by said encrypting unit together with the CM file in response to a request for reproduction from the user terminal storing therein either another one of the divided moving image files; and

a reproducing unit for combining the two moving image files and the CM file distributed to the user terminal and reproducing the combined files.

2. A moving image distribution system for distributing a prespecified moving image to a user terminal connected to the system via a network such as the Internet, said system having a service provider server comprising a moving image dividing unit for dividing said moving image to two not-reproducing moving image files along the time axis, namely a main one and a slave one; a main moving image file storing section for storing therein said main moving image file; a slave moving image file storing section for storing therein said slave moving image; a CM file storing section for storing therein a CM file including a prespecified CM element incorporated therein; and an encrypting unit for encrypting either one of said main moving image file and said slave moving image file based on the data for the CM file,

said system further comprising:

a first step of sending a demand for distributing said moving image from the user terminal to said service provider server;

a second step of acquiring, in response to the demand for distribution, said main moving image file for said moving image from said main moving image file storing section and distributing the main moving image file to the user terminal;

a third step of sending a demand for reproduction of said main moving image file from said user terminal;

a fourth step of acquiring, in response to said demand for reproduction, said slave moving image file matching said main moving image file from said slave moving image

file storing section;

a fifth step of acquiring said CM file from said CM file storing section and encrypting said slave moving image file based on data in said CM file;

a sixth step of distributing said encrypted slave moving image file together with said CM file to said user terminal; and

a seventh step of combining the two moving image files distributed to said user terminal and the CM file with a prespecified reproducing unit and reproducing the combined files.

3. A moving image distribution system for distributing a prespecified moving image to a user terminal connected to the system via a network such as the Internet, said system comprising a service provider server comprising a moving image contents provider server having said moving image, a sponsor server having a CM file with a prespecified advertisement element incorporated therein, and a moving image dividing unit for dividing said moving image to two not-reproducible files, namely a main one and a slave one, along the time axis,

said moving image contents provider server having a main moving image file storing section for storing a main moving image file obtained after division by said moving image dividing unit;

said service provider server having a slave moving image file storing section for storing thereon a slave moving image file obtained after division by said moving image dividing unit, an encrypting unit for encrypting either one of said main moving image file and said slave moving image file based on data for said CM file, and a CM file storing section for storing therein said CM moving image distributed from the sponsor server,

said system further comprising:

a first step of sending a demand for distributing said moving image from the user terminal to said moving image contents provider server;

a second step of acquiring, in response to the demand for distribution, said main moving image file for said moving image from said main moving image file storing section and distributing the main moving image file to the user terminal;

a third step of sending a demand for reproduction of said main moving image file from said user terminal;

a fourth step of acquiring, in response to said demand for reproduction, said slave moving image file matching said main moving image file from said slave moving image file storing section of the service provider server;

a fifth step of acquiring said CM file from said CM file storing section and encrypting said slave moving image file based on data in said CM file via said encrypting

unit;

a sixth step of distributing said encrypted slave moving image file together with said CM file to said user terminal; and

a seventh step of combining the two moving image files distributed to said user terminal and the CM file with a prespecified reproducing unit and reproducing the combined files.

4. The moving image distribution system according to any of claims 1, 2, and 3, wherein said moving image dividing unit compresses data for a moving image so that a total of file capacities of the two moving image files is smaller than a file capacity for the moving image, and also dividing the moving image so that a file capacity of said main moving image file is larger than that of said slave moving image file.

5. The moving image distribution system according to any of claims 1 to 4, wherein said encrypting unit computes an exclusive logical sum (XOR) between a data bit array for said CM file and a data bit array for said divided moving image file and encrypts said moving image file.

6. The moving image distribution system according to any of claims 1 to 5 further comprising:

a user information storing section for storing therein various types of user information concerning users including service providers (managers), users, moving image contents providers, and sponsors; and

a user certifying engine for certifying access to said service provider server based on said user information, wherein said moving image dividing unit acknowledges a demand for dividing said moving image only when a user is authenticated as a service provider or a moving image contents provider by said user certifying engine.

7. The moving image distribution system according to any of claims 2 to 6, wherein said service provider server furthermore comprises a CM file acquiring unit for acquiring said CM file from said CM file storing section based on said user information, and said CM file acquiring unit selects a CM file demanded by the user from the CM file storing section based on the user information and provides the CM file to said encrypting unit.

8. The moving image dividing system according to any of claims 1 to 7, wherein said reproducing unit comprises a decoder for decoding said main moving image file and said slave moving image file both not-reproducible to said reproducible moving image, and a combining unit for combining one of said encrypted moving image files (slave moving image file) together with the CM file again by executing the exclusive logical sum (XOR) processing, and said reproducing unit combines said CM file with said moving image files

by said combining unit after checking that the said CM file has been reproduced, and starts up said decoder to decode said main moving image file and said slave moving image file to said reproducible moving image.

9. The moving image distribution system according to claim 8, wherein said service provider server comprises a reproducing unit storing section for storing therein said reproducing unit, and executes a processing procedure comprising a searching step of searching, when a demand for reproduction of said moving image file is received from said user terminal, whether said reproducing unit is present on said user terminal or not, and a reproducing unit distributing step of distributing said reproducing unit to said user terminal when it is determined in the searching step that there is no reproducing unit on said user terminal.

10. The moving image distribution system according to claim 8 or claim 9, wherein said reproducing unit further comprises a user information storing section for storing therein user information concerning said user, and distributes said user information to said user information storing section in said service provider server in response to a demand from said user certifying engine.

11. A moving image distribution program for distributing a prespecified moving image to a user terminal connected to a moving image distribution system via a network line such as the Internet, said program comprising:

a moving image dividing step of dividing said moving image to two not-reproducible moving image files along the time axis;

an encrypting step of encrypting either one of said divided two moving image files based on data for a CM file including a prespecified CM element incorporated therein; and

a moving image distributing step of distributing, in response to a demand for reproduction from said user terminal storing therein either another one of the moving image files, the other one of said moving image files together with said CM moving image to said user terminal.

12. A moving image dividing system comprising:

a moving image dividing unit for dividing a reproducible moving image to two not-reproducible moving image files, namely a main one and a slave one, along the time axis,

wherein said moving image dividing unit comprises:

a frame dividing unit for acquiring said moving image frame by frame and dividing each of said frames to a first frame including only frame information for the frame, and a second frame including said frame information and frame information for a preceding frame;

a bit dividing unit for dividing said first frame to lower 7 bits and a top bit;

another code dividing unit for dividing said second frame to a first code including only the second frame information, and a second code including the second information and frame information for a preceding frame;

5 a coefficient extracting unit for subjecting said first code to discrete cosine transform to extract an AC coefficient and a DC coefficient thereof respectively; and

a file constructing section for constructing said main moving image file by combining said second code, said AC coefficient, and the lower 7 bits of said first frame and also for constructing said slave moving image file by combining said DC coefficient
10 and the top bit of said first frame.

13. A moving image distribution system for distributing a prespecified moving image to a user terminal connected to the system via a network such as the Internet, said system comprising:

a service provider server having a moving image dividing unit for dividing a
15 moving image distributed from a moving image contents provider to two not-reproducible moving image files, namely a main one and a slave one, along the time axis and also for incorporating a CM file distributed from a sponsor in either one of the divided moving image files,

wherein said server provider server distributes said moving image file to said user
20 terminal and also presents a CM advertisement fee associated with distribution of said moving image file to said sponsor.

14. A moving image distribution system for distributing a prespecified moving image to a user terminal connected to the system via a network such as the Internet, said system comprising:

25 a moving image contents provider server storing therein said moving image;

a sponsor server storing therein a CM file having a CM file with a prespecified advertisement element incorporated therein; and

a serve provider server having a moving image dividing unit for dividing said moving image to two not-reproducible moving image files, namely a main one and a slave
30 one, along the time axis,

wherein said service provider server has a CM management engine including a counting section for counting times of distribution of either one or both of said main and slave moving image files; a CM distribution managing section for managing log data for distribution of said CM file distributed together with said moving image file; and a CM
35 information preparing section for computing distribution information for said CM file according to times of distribution of said CM file and the distribution log data;

said system furthermore comprising:

a counting step of counting times of distribution of said distributed moving image contents in response to a demand for distribution from said user terminal on said counting section;

5 a CM information preparing step of preparing acquiring a count from said counting section, acquiring said log data for distribution from said CM distribution managing section, and preparing CM distribution information from said count as well as from log data for distribution in said CM information preparing section; and

10 a distribution log data notifying step of notifying to said moving image contents provider server and/or said sponsor server of said distribution information.

15 15. A moving image dividing program having a moving image dividing step of dividing a reproducible moving image to two not-reproducible moving image files, namely a main one and a slave one, along the time axis, wherein said moving image dividing step comprises a frame dividing step of acquiring said moving image frame by frame and dividing each frame to a first frame including only the frame information and a second frame including said frame information and information concerning a preceding frame;

a bit dividing step of dividing said first frame to lower 7 bits and a top bit;

20 a code dividing bit of dividing said second frame to a first code including only the second frame information and a second code including the second frame information and frame information concerning a preceding frame;

a coefficient extracting step of subjecting said first code to discrete cosine transform to extract an AC coefficient and a DC coefficient thereof; and

25 a file constructing step of constructing said main moving image by combining said second code, said ac coefficient, and the lower 7 bits of said first frame, and also of constructing said slave moving image file by combining said DC coefficient and atop bit of said first frame.

16. A moving image dividing system having a moving image dividing unit for dividing a reproducible moving image to two not-reproducible moving image files, namely a main one and a slave one, along the time axis,

30 wherein said moving image dividing unit comprises:

a frame dividing unit for acquiring said moving image frame by frame and dividing each frame to a first frame including only the frame information and a second frame including the frame information and frame information concerning a preceding frame;

a first block extracting unit for extracting a block from said first frame;

35 a first coefficient extracting section for extracting a DC coefficient and an AC coefficient from the block extracted by said first block extracting unit;

a second block extracting unit for extracting a block from said second frame;
a second coefficient extracting section for acquiring a DC coefficient and an AC coefficient from the block extracted by said second block extracting unit;

a filtering section for acquiring a portion of the bit number as a filter factor by
5 subjecting a DC coefficient for the preceding frame extracted from each coefficient extracting section to the exclusive logical sum (XOR) processing;

a first file constructing section for subjecting the AC coefficient extracted by said first coefficient extracting section and the filter factor produced by said filtering section to the exclusive logical sum (XOR) processing; and

10 a second file constructing section for subjecting the AC coefficient extracted by said second coefficient extracting section and the filter factor produced by said filtering section to the exclusive logical sum (XOR) processing.

17. The moving image dividing system according to claim 14, wherein said filter factor comprises lower 8 bits.

15 18. A moving image dividing program having a moving image dividing step of dividing a reproducible moving image to two not-reproducible moving image files, namely a main one and a slave one, along the time axis,

wherein said moving image dividing unit comprises:

20 a frame dividing step of acquiring said moving image frame by frame and dividing each frame to a first frame including only the frame information and a second frame including said frame information and frame information concerning a preceding frame;

a first block extracting step of extracting a block from said first frame;

a first coefficient extracting step of extracting a DC coefficient and an AC coefficient from the block extracted in the first block extracting step;

25 a second block extracting step of extracting a block from said second frame;

a second coefficient extracting step of extracting a DC coefficient and an AC coefficient from the block extracted in the second block extracting step;

30 a filtering step of acquiring a portion of the bit number as a filter factor by subjecting a DC coefficient for the preceding frame extracted from each coefficient extracting section to the exclusive logical sum (XOR) processing;

a first file constructing step of subjecting the AC coefficient extracted in the first coefficient extracting step and the filter coefficient produced in the filtering step to the exclusive logical sum (XOR) processing; and

35 a second file constructing step of subjecting the AC coefficient extracted in said second coefficient extracting step and the filter factor produced in said filtering step to the exclusive logical sum (XOR) processing.

19. A recording medium with the moving image distribution program according to any of claims 12, 14, and 15 and/or the moving image dividing program according to claim 13 or 16 recorded therein.